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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,775	07/20/2000	Norman F. Krasner	02344.P037X	3595

23696 7590 03/11/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
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EXAMINER	
CHOW, CHARLES CHIANG	

ART UNIT	PAPER NUMBER
2685	12

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/619,775	KRASNER, NORMAN F.	
	Examiner	Art Unit	
	Charles Chow	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-12 and 14-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-12 and 14-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Office Action for
Request for Continued Examination RCE
Received on 1/30/2004

Claim Objection

1. Claims 2-5, 14 are objected to because of the following informalities: Claims 2-5 are depending upon a canceled claim 2, and claim 14 is depending upon a canceled claim 13. Appropriate correction is required. For the purpose of examination, the following office action assumes that claims 2-5 are dependent upon claim 1, and claim 14 is dependent upon claim 11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Cisneros et al. (US 5,774,829)

Regarding **claim 21**, Cisneros et al. (Cisneros) teaches the determining of the position of mobile unit 120 having the GPS/APS 128, 604 receiver (Fig. 14/16) which is coupled to the uncoordinated beacon receiver UBR receiver 124/602 for receiving beacon signal from cellular, wireless cell site 102 (Fig. 1, col. 5, lines 40-65).

Cisneros teaches the determining a change of power level of a communication signal transmitted, by communication receiver [the power estimator 270 (Fig. 5) for determining of changes in recovered power level due to motion, variation in modulation content, to correct/improve pilot signal phase measurement (col. 14, lines 52-63)].

Cisneros teaches the determining a parameter, based on the change [the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50)].

Cisneros teaches the processing SPS signals in SPS receiver (APS receiver) in a manner specified by the parameter [the contribution of error in navigation solution due to physical location change of the mobile unit (col. 12, lines 20-23; col. 12, lines 39-50), the correction information 504 (Fig. 14, col. 25, line 66 to col. 26) and differential GPS corrections sent from UBR 124 to APS receiver via 504 (Fig. 16, col. 32, lines 6-14), the processing of GPS pseudorange based on the correction from UBR receiver (col. 30, lines 24-39), for processing GPS signal based on the correction information from UBR receiver].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Schuchman et al. (US 6,111,538).

Regarding **claim 1**, Cisneros et al. (Cisneros) teaches a method for determining a position of a mobile SPS receiver (GPS receiver 128/618, Fig. 14/Fig. 16) which is coupled to a communication receiver (UBR 124/608, Fig. 14/Fig. 16),

Cisneros teaches the method comprising determining a change in a communication signal received by said communication receiver (the determining of change in power level, col. 14, lines 52-63; the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50).

Cisneros teaches the communication signal is a cellular signal transmitted from a wireless cell cite (the uncoordinated beacon receiver UBR receiver 124/602 for receiving beacon signal from cellular, wireless cell site 102, Fig. 1, col. 5, lines 40-65).

Cisneros teaches the determining a parameter, based on the change [the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50].

Cisneros teaches the processing SPS signals in SPS receiver (APS receiver) in a manner specified by the parameter [the contribution of error in navigation solution due to physical location change of the mobile unit (col. 12, lines 20-23; col. 12, lines 39-50), the correction information 504 (Fig. 14, col. 25, line 66 to col. 26) and differential GPS corrections sent

from UBR 124 to APS receiver via 504 (Fig. 16, col. 32, lines 6-14), the processing of GPS pseudorange based on the correction from UBR receiver (col. 30, lines 24-39), for processing GPS signal based on the correction information from UBR receiver].

Cisneros does not clearly teach a cellular signal transmitted from a wireless cell site. Schuchman et la. (Schuchman) teaches the cellular positioning system having beacon signal for determining the position of a mobile telephone or cellular telephone in cellular or wireless system (abstract, Fig. 1-5; col. 1, lines 43-47), the base station transmits beacon signal to navigation receiver NR (col. 8, line 64 to col. 9, line 17), with the beacon format in Table 4 (col. 7, lines 13-35). Schuchman teaches a cellular signal can be a beacon signal transmitted by a base station cell site in a cellular or wireless system, and a technique for efficiently integrating a beacon signal feature into a cellular telephone. Schuchman teaches the obviousness of a cellular base station in a wireless system for transmitting beacon signal for locating cellular telephone. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Schuchman's beacon signal from base station cell site for locating mobile or cellular telephone, such that the location of the mobile or cellular telephone could be efficiently determined by integrating a beacon signal feature to the cellular telephone.

4. Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Abraham et al (US 5,510,797).

In the above, it does not clearly indicate the CDMA, TDMA.

Regarding **claim 3,** Abraham teaches the SPS timing signal sequence (15A-15D) for synchronization for CDMA user, TDMA users, cellular telephone CT user (figure in cover page, abstract, col. 6, lines 28-47). Abraham provides the distributed timing signal using SPS signal to CDMA, TDMA user for efficient synchronization to the system timing. Abraham teaches the SPS sequence of timing for timing synchronization, such that the user could efficiently correct their timing error (col. 5, lines 18-22) using the SPS signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Abraham's SPS sequence of timing for timing synchronization, such that the user could efficiently correct their timing error using the SPS signal.

Regarding **claim 4**, Abrahem taught the cellular signal uses TDMA technique, and SPS timing synchronization signal, to distinguish between different communication receiver.

5. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Ando (EP 0,429,769 A2).

In the above, it does not clearly indicate the parameter is a motion information.

Regarding **claim 5,** Ando teaches the GPS satellite tracking method using the motion moving speed information of the vehicle to estimate the Doppler frequency shift for the first speed with associated Doppler shift +/- 600 Hz and second speed for a +/- 150 Hz, as shown in Ando's abstract, Fig. 4. Ando considers the varying frequency search range using the

Doppler frequency shift to acquire satellite communication in a narrow-band search and in a wide band search (abstract; col. 1, line 51 to col. 2, line 7; col. 3, line 44 to col. 4, line 37). Ando provides the solution to track satellite signal based on the vehicle speed for search frequencies in different frequency bandwidth, as shown above. Ando teaches the measuring the vehicle speed and Doppler shift for searching, tracking, the satellite signal, such that the satellite signal could be efficiently tracked. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Ando's measuring the vehicle speed and Doppler shift for searching, tracking, the satellite signal, such that the satellite signal could be efficiently tracked.

Regarding the change in signal level, Cisneros taught above in claim 1, the power level change due to mobile changing moving.

Regarding **claim 6**, Ando taught in claim 5 above for the motion information determining of the search range to acquire, track, the SPS signal.

6. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Ando, as applied to claim 5 above, and further in view of Pon (US 5,771,456).

In the above, it does not clearly indicate the first, second velocity, although Ando has shown above the search range is depend upon the vehicle speed, Doppler frequency shift.

Regarding **claim 7,** Pon teaches the suppression of the multipath interference using the mobile user's speed velocity to determine the range, pseudorange, for the SPS location determining signal (abstract, figure in cover page; Fig. 1, Fig. 4; col. 2, lines 8-45). Pon

considers the first and second velocity (abstract). Pon teaches the first, second velocity and determining of the pseudorange for location determining signal, such that the system could provide accurate pseudorange information for the location determining signal to user. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Pon's first, second velocity and the determining of the pseudorange for location determining signal, such that the system could provide accurate pseudorange information for the location determining signal to user.

Regarding **claim 8**, Pon taught above in claim 7 above, the using of user's speed, first, second velocity for determining of the first, second range, the pseudorange for the first range is smaller in frequency than second range.

Regarding **claim 9**, Cisneros taught above in claim 1 the SPS receiver determines at least one pseudorange to at least one SPS satellite in view, by APS receiver.

Regarding **claim 10,** Cisneros taught above the parameter is used in determining of pseudorange and change, is fading of signal level (the estimate range Ri, the measured time residuals reflect transient effect due to multi-path signal propagation, and the variation reflects the uncorrelated pseudorange error in col. 29, line 65 to col. 30, line 7).

7. Claims 11-12, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Wysocki et al. (US 5,381,338).

Regarding **claim 11**, Cisneros teaches a mobile communication system comprising SPS (GPS) satellite signal received by APS/GPS receiver 128/618, Fig. 14/Fig. 16) which is coupled to a communication receiver (UBR 124/608, Fig. 14/Fig. 16),

Cisneros teaches a communication receiver which receives a communication signal is a cellular signal transmitted from a wireless cell cite (the uncoordinated beacon receiver UBR receiver 124/602 for receiving beacon signal from cellular, wireless cell site 102, Fig. 1, col. 5, lines 40-65).

Cisneros teaches the method comprising determining a change in a communication signal received by said communication receiver (the determining of change in power level, col. 14, lines 52-63; the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50).

Cisneros teaches the processing SPS signals in SPS receiver (APS receiver) in a manner specified by the parameter [the contribution of error in navigation solution due to physical location change of the mobile unit (col. 12, lines 20-23; col. 12, lines 39-50), the correction information 504 (Fig. 14, col. 25, line 66 to col. 26) and differential GPS corrections sent from UBR 124 to APS receiver via 504 (Fig. 16, col. 32, lines 6-14), the processing of GPS pseudorange based on the correction from UBR receiver (col. 30, lines 24-39), for processing GPS signal based on the correction information from UBR receiver].

Cisneros does not clearly teach the communication signal measurement unit CSM.

Wysocki teaches a satellite positioning system (SPS) receiver which receives and processes SPS signals for SPS satellites; a communication receiver which receives a communication

signal; a communication signal measurement (CSM) unit coupled to said communication receiver and coupled to said SPS receiver (in abstract, Fig. 1, col. 1, line 13-17, in col. 10, line 66 to col. 11, line 4, it shows the positioning, navigation, and collision avoidance system for land vehicle). The system has the SPS receiver 1 and the transceiver 19. The system controller 2 has the interface 3 for interfacing to the SPS receiver, the interface 18 for interfacing to the transceiver 19. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Wysocki's SPS receiver 1, transceiver 19, system controller, as the claimed communication signal measurement CSM, such that system controller could control the measurement of the changing parameters and process the SPS signals.

Regarding **claim 12**, Wysocki taught above in claim 11, for which also provides the claimed features for the communication signal measurement and the determining of the specified parameter of the said manner, based on the change.

Regarding **claim 19**, Cisneros taught above in claim 1 the SPS receiver determines at least one pseudorange to at least one SPS satellite in view, by APS receiver.

Regarding **claim 20,** Cisneros taught above the parameter is used in determining of pseudorange and change, is fading of signal level (the estimate range Ri, the measured time residuals reflect transient effect due to multi-path signal propagation, and the variation reflects the uncorrelated pseudorange error in col. 29, line 65 to col. 30, line 7).

8. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Wysocki, as applied to claim 11, and further in view of Abramham.

Regarding **claim 14**, Abraham taught above in claim 3 for the cellular signal used one of a CDMA or TDMA technique to distinguish between different communication receivers. Abraham teaches the SPS timing signal sequence (15A-15D) for synchronization for CDMA user, TDMA users, cellular telephone CT user (figure in cover page, abstract, col. 6, lines 28-47). Abraham provides the distributed timing signal using SPS signal to CDMA, TDMA user for efficient synchronization to the system timing. Abraham teaches the SPS sequence of timing for timing synchronization, such that the user could efficiently correct their timing error (col. 5, lines 18-22) using the SPS signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and include Abraham's SPS sequence of timing for timing synchronization, such that the user could efficiently correct their timing error using the SPS signal.

Regarding **claim 15**, Cisneros taught above the change in power level as mobile moves and the parameter is motion information of the mobile unit in a CDMA/TDMA communication system, having similar transmitting signal.

Regarding **claim 16**, Cisneros has taught above the moving of the mobile unit relative the beacon cite 102, for measuring of the phase change in the received beacon signal, the UBR measures and computes pseudorange for determining of mobile unit position (col. 30, lines 40 to col. 31, line 11).

9. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Wysocki, as applied to claim 11 above, and further in view of Pon.

Regarding **claim 17,** Pon teaches the suppression of the multipath interference using the mobile user's speed to determine first, second range, the pseudorange, for the SPS location determining signal (abstract, figure in cover page; Fig. 1, Fig. 4; col. 2, lines 8-45). Pon considers the first and second velocity (abstract). Pon teaches the first, second velocity and determining of the pseudorange for location determining signal, such that the system could provide accurate pseudorange information for the location determining signal to user. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros above, and to include Pon's first, second velocity and the determining of the pseudorange for location determining signal, such that the system could provide accurate pseudorange information for the location determining signal to user.
Regarding **claim 18,** Pon taught above in claim 7 above, the using of user's speed, first, second velocity for determining of the first, second range, the pseudorange for the first range is smaller in frequency than second range.

10. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisneros in view of Gilhousen (US 5,859,612).

In the above it does not clearly teach the determining monitoring of power control command for determining the change in a power level.
Regarding **claim 22,** Gilhousen teaches the change in a power level determined by

monitoring power control commands received by the communication transceiver over a communication link (see in abstract, in Fig. 14, 16, in col. 1, line 8-15, it shows the method and apparatus of a rotating antenna beam for determining the position of a mobile subscriber station within the cellular telephone system). In col. 11, line 5-14, it shows the closed loop power control of the transmitting power of the mobile station. In col. 25, line 31-40, it shows the AGC power controlling. In col. 27, line 66 to col. 28, line 12, it shows the power control circuitry 438, and the power adjustment command controlling bits from cell-site. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Cisneros, and to include Gilhousen's determining mobile station's position and power controlling command for adjusting transmission power level, such that power level could be detected and adjusted for communication link.

Regarding **claims 23, 24**, Gilhousen taught above the determined change in power level by monitoring the closed loop power control commands provided to a AGC power control transmitter circuitry, and the power commands received at the communication receiver from base station cell site.

Response to Arguments

11. Applicant's arguments with respect to claims 1, 3-12, 14-24 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's Request for Continued Examination RCE, the ground of rejection has been changed to include Cisneros et al. (US 5,774,829) and Schuchman et al. (US 6,111,538), due to primary reference, Sheynblat-786B1, is belonging to Assignee, Snaptrack.

Cisneros teaches a method for determining a position of a mobile SPS receiver (GPS receiver 128/618, Fig. 14/Fig. 16) which is coupled to a communication receiver (UBR 124/608, Fig. 14/Fig. 16),

Cisneros teaches the method comprising determining a change in a communication signal received by said communication receiver (the determining of change in power level, col. 14, lines 52-63; the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50).

Cisneros teaches the communication signal is a cellular signal transmitted from a wireless cell cite (the uncoordinated beacon receiver UBR receiver 124/602 for receiving beacon signal from cellular, wireless cell site 102, Fig. 1, col. 5, lines 40-65).

Cisneros teaches the determining a parameter, based on the change [the measuring of the phase/frequency changes in detected beacon signal by the UBR receiver for estimating the initial position of a mobile unit (col. 3, lines 24-35; col. 3, line 65 to col. 4, line 20; col. 12, lines 11-50].

Cisneros teaches the processing SPS signals in SPS receiver (APS receiver) in a manner specified by the parameter [the contribution of error in navigation solution due to physical location change of the mobile unit (col. 12, lines 20-23; col. 12, lines 39-50), the correction information 504 (Fig. 14, col. 25, line 66 to col. 26) and differential GPS corrections sent

from UBR 124 to APS receiver via 504 (Fig. 16, col. 32, lines 6-14), the processing of GPS pseudorange based on the correction from UBR receiver (col. 30, lines 24-39), for processing GPS signal based on the correction information from UBR receiver].

Schuchman teaches the cellular positioning system having beacon signal for determining the position of a mobile telephone or cellular telephone in cellular or wireless system (abstract, Fig. 1-5; col. 1, lines 43-47), the base station transmits beacon signal to navigation receiver NR (col. 8, line 64 to col. 9, line 17), with the beacon format in Table 4 (col. 7, lines 13-35). Schuchman teaches a cellular signal can be a beacon signal transmitted by a base station cell site in a cellular or wireless system, and a technique for efficiently integrating a beacon signal feature into a cellular telephone. Schuchman teaches the obviousness of a cellular base station in a wireless system for transmitting beacon signal for locating cellular telephone.

In view of the cited references, claims 1, 3-12, 14-24 are remaining in the rejection manner.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow C.C.

February 12, 2004.

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600